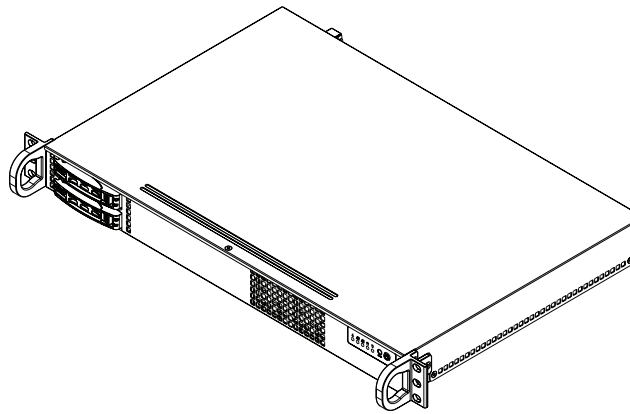
SUPERO®

SC510T Chassis Series



SC510T-200B

USER'S MANUAL

1.0

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Release Date: November 18, 2008
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Preface

About This Manual

This manual is written for professional system integrators and PC technicians. It provides information for the installation and use of the SC510T chassis. Installation and maintenance should be performed by experienced technicians only.

Supermicro's SC510T-200B chassis features a unique and highly-optimized design for dual-core Intel Xeon 300/Core 2 Duo platforms. The chassis is equipped with a 200W high efficiency power supply for superb power savings. High performance fans provide ample optimized cooling.

This document lists compatible parts available when this document was published. Always refer to the our Web site for updates on supported parts and configurations.

Manual Organization

Chapter 1 Introduction

The first chapter provides a checklist of the main components included with this chassis and describes the main features of the SC510T-200B chassis. This chapter also includes contact information.

Chapter 2 System Safety

This chapter lists warnings, precautions, and system safety. It recommended that you thoroughly familiarize yourself installing and servicing this chassis safety precautions.

Chapter 3 Chassis Components

Refer here for details on this chassis model including the fans, airflow shields, and other components.

Chapter 4 Chassis Setup and Installation

Follow the procedures given in this chapter when installing, removing, or reconfiguring your chassis.

Chapter 5 Rack Installation

Refer to this chapter for detailed information on chassis rack installation. You should follow the procedures given in this chapter when installing, removing or reconfiguring your chassis into a rack environment.

Appendix A Chassis Hardware

Appendix B: Power Supply Specifications

Appendix C: SAS-510T Backplane Specifications

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Chapter 1

Introduction

1-1 Overview

Supermicro's SC510T-200B chassis features a unique and highly-optimized design. The chassis is equipped with high efficiency 80%+ low noise power supply.

1-2 Shipping List

Part Numbers

Please visit the following link for the latest shiping lists and part numbers for your particular chassis model http://www.supermicro.com/

SC510T-200B Chassis				
Model	**CPU**	**HDD**	**I/O Slots**	**Power Supply**
SC510T-200B	Intel Xeon 3000/ Core 2 Duo Series	Two hot-swappable 2.5" SAS/SATA hard drives	1x LP*	200W

*Low profile add-on card with regular bracket

1-3 Where to get Replacement Components

Though not frequently, you may need replacement parts for your system. To ensure the highest level of professional service and technical support, we strongly recommend purchasing exclusively from our Supermicro Authorized Distributors / System Integrators / Resellers. A list of Supermicro Authorized Distributors / System Integrators /Reseller can be found at: http://www.supermicro.com. Click the Where to Buy link.

1-4 Contacting Supermicro

Headquarters

Address:	Super Micro Computer, Inc. 980 Rock Ave. San Jose, CA 95131 U.S.A.
Tel:	+1 (408) 503-8000
Fax:	+1 (408) 503-8008
Email:	marketing@supermicro.com (General Information) support@supermicro.com (Technical Support)
Web Site:	www.supermicro.com

Europe

Address:	Super Micro Computer B.V. Het Sterrenbeeld 28, 5215 ML 's-Hertogenbosch, The Netherlands
Tel:	+31 (0) 73-6400390
Fax:	+31 (0) 73-6416525
Email:	sales@supermicro.nl (General Information) support@supermicro.nl (Technical Support) rma@supermicro.nl (Customer Support)

Asia-Pacific

Address:	Super Micro Computer, Inc. 4F, No. 232-1, Liancheng Rd. Chung-Ho 235, Taipei County Taiwan, R.O.C.
Tel:	+886-(2) 8226-3990
Fax:	+886-(2) 8226-3991

1-5 Returning Merchandise for Service

A receipt or copy of your invoice marked with the date of purchase is required before any warranty service will be rendered. You can obtain service by calling your vendor for a Returned Merchandise Authorization (RMA) number. When returning to the manufacturer, the RMA number should be prominently displayed on the outside of the shipping carton, and mailed prepaid or hand-carried. Shipping and handling charges will be applied for all orders that must be mailed when service is complete.

For faster service, RMA authorizations may be requested online (http://www.supermicro.com/support/rma/).

Whenever possible, repack the chassis in the original Supermicro carton, using the original packaging material. If these are no longer available, be sure to pack the chassis securely, using packaging material to surround the chassis so that it does not shift within the carton and become damaged during shipping.

This warranty only covers normal consumer use and does not cover damages incurred in shipping or from failure due to the alteration, misuse, abuse or improper maintenance of products.

During the warranty period, contact your distributor first for any product problems.

Chapter 2

System Safety

2-1 Overview

This chapter provides a quick setup checklist to get your chassis up and running. Following the steps in order given should enable you to have your chassis setup and operational within a minimal amount of time. This quick set up assumes that you are an experienced technician, famailiar with common concepts and terminology.

2-2 Warnings and Precautions

You should inspect the box the chassis was shipped in and note if it was damaged in any way. If the chassis itself shows damage, file a damage claim with carrier who delivered your system.

Decide on a suitable location for the rack unit that will hold that chassis. It should be situated in a clean, dust-free area that is well venilated. Avoid areas where heat, electrical noise and eletromagnetic fields are generated.

You will also need it placed near at least one grounded power outlet. When configured, the SC510T chassis includes one power supply.

2-3 Preparing for Setup

The SC510T chassis bolts directly to a rack and includes the mounting screws you will need to install the systems into the rack. Please read this manual in its entirety before you begin the installation procedure.

2-4 Electrical Safety Precautions

Basic electrical safety precautions should be followed to protect yourself from harm and the SC510T-200B from damage:

- Be aware of the locations of the power on/off switch on the chassis as well as the room's emergency power-off switch, disconnection switch or electrical outlet. If an electrical accident occurs, you can then quickly remove power from the system.

- Do not work alone when working with high voltage components.

- Power should always be disconnected from the system when removing or installing main system components, such as the serverboard, memory modules and the DVD-ROM and floppy drives (not necessary for hot swappable drives). When disconnecting power, you should first power down the system with the operating system and then unplug the power cords from all the power supply modules in the system.

- When working around exposed electrical circuits, another person who is familiar with the power-off controls should be nearby to switch off the power, if necessary.

- Use only one hand when working with powered-on electrical equipment. This is to avoid making a complete circuit, which will cause electrical shock. Use extreme caution when using metal tools, which can easily damage any electrical components or circuit boards they come into contact with.

- Do not use mats designed to decrease electrostatic discharge as protection from electrical shock. Instead, use rubber mats that have been specifically designed as electrical insulators.

- The power supply power cord must include a grounding plug and must be plugged into grounded electrical outlets.

- Serverboard battery: CAUTION - There is a danger of explosion if the onboard battery is installed upside down, which will reverse its polarities This battery must be replaced only with the same or an equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

- DVD-ROM laser: CAUTION - This server may have come equipped with a DVD-ROM drive. To prevent direct exposure to the laser beam and hazardous radiation exposure, do not open the enclosure or use the unit in any unconventional way.

2-5 General Safety Precautions

- Keep the area around the chassis clean and free of clutter.
- Place the chassis top cover and any system components that have been removed away from the system or on a table so that they won't accidentally be stepped on.
- While working on the system, do not wear loose clothing such as neckties and unbuttoned shirt sleeves, which can come into contact with electrical circuits or be pulled into a cooling fan.
- Remove any jewelry or metal objects from your body, which are excellent metal conductors that can create short circuits and harm you if they come into contact with printed circuit boards or areas where power is present.
- After accessing the inside of the system, close the system back up and secure it to the rack unit with the retention screws after ensuring that all connections have been made.

2-6 System Safety

Electrostatic discharge (ESD) is generated by two objects with different electrical charges coming into contact with each other. An electrical discharge is created to neutralize this difference, which can damage electronic components and printed circuit boards. The following measures are generally sufficient to neutralize this difference before contact is made to protect your equipment from ESD:

- Do not use mats designed to decrease electrostatic discharge as protection from electrical shock. Instead, use rubber mats that have been specifically designed as electrical insulators.
- Use a grounded wrist strap designed to prevent static discharge.
- Keep all components and printed circuit boards (PCBs) in their antistatic bags until ready for use.

- Touch a grounded metal object before removing any board from its antistatic bag.
- Do not let components or PCBs come into contact with your clothing, which may retain a charge even if you are wearing a wrist strap.
- Handle a board by its edges only; do not touch its components, peripheral chips, memory modules or contacts.
- When handling chips or modules, avoid touching their pins.
- Put the serverboard and peripherals back into their antistatic bags when not in use.
- For grounding purposes, make sure your computer chassis provides excellent conductivity between the power supply, the case, the mounting fasteners and the serverboard.

Chapter 3

Chassis Components

3-1 Overview

This chapter describes the most common components included with your chassis. Some components listed may not be included or compatible with your particular chassis model. For more information, see the installation instructions detailed later in this manual.

3-2 Components

Chassis

The SC510T chassis includes:

- Two hot-swappable 2.5" hard drives.
- One SAS/SATA backplane
- Two SATA cables, part number CBL-061L

For the latest shipping lists, visit our Web site at: http://www.supermicro.com.

The chassis accepts three system fans and one power supply. The SC510T chassis comes in black.

Fans

The SC510T chassis accepts three system fans. System fans for the SC510T chassis are powered from the serverboard. These fans are 1U high and are powered by 4-pin connectors.

Mounting to a Rack (optional)

The SC510T can be placed in a rack for secure storage and use. To setup your rack, follow the step-by-step instructions included in this manual.

Power Supply

Each SC510T chassis model includes a high-efficiency 80%+ low noise power supply with thermal control fan, rated at 200 Watts. In the unlikely event your power supply fails, replacement is simple. The power supply simply needs to be unscrewed from the chassis and replaced.

Air Shroud

Air shrouds are shields, usually plastic, that channel air directly to where it is needed. Always use the air shroud included with your chassis, unless an active heatsink is used on the motherboard. When an active heatsink is used, no air shroud is required.

3-3 Where to get Replacement Components

Though not frequently, you may need replacement parts for your system. To ensure the highest level of professional service and technical support, we strongly recommend purchasing exclusively from our Supermicro Authorized Distributors/ System Integrators/Resellers. A list of Supermicro Authorized Distributors/System Integrators/Resellers can be found at: http://www.supermicro.com. Click the Where to Buy link.

Chapter 4

Chassis Setup and Maintenance

4-1 Overview

This chapter covers the procedures required to install components and perform maintenance on the chassis. The only tool you will need to install components and perform maintenance is a Phillips screwdriver.

Review the warnings and precautions listed in the manual before setting up or servicing this chassis. These include information in Chapter 2: System Safety and the warning/precautions listed in the setup instructions.

4-2 Removing the Chassis Cover

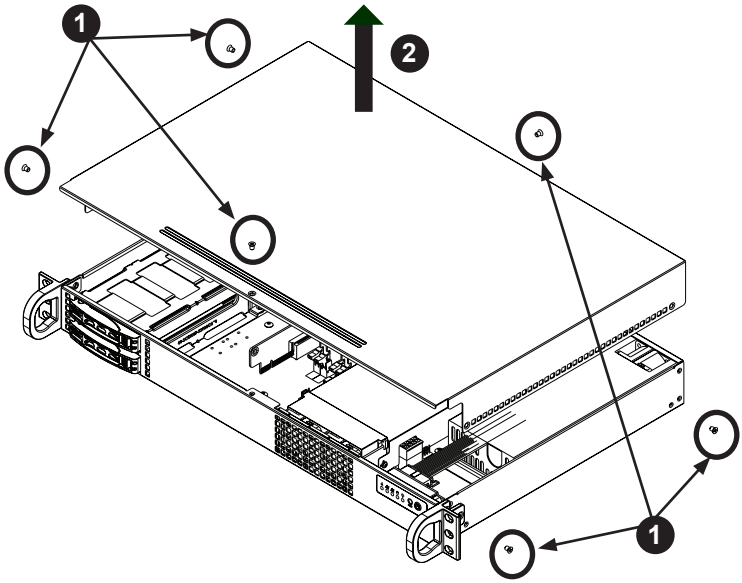


Figure 4-1: Removing the Chassis Cover

Removing the Cover

1. Remove the six screws that hold the chassis cover in place.There are two screws on each side of the chassis, one screw on the front and one screw on the back.

2. Once the screws have been removed, lift the cover upward to remove it from the chassis.

Warning: Except for short periods of time, do NOT operate the server without the cover in place. The chassis cover must be in place to allow proper airflow and prevent overheating.

4-3 Removing and Installing the Hard Drives

The SC510T supports two 2.5" hot-swappable hard drives, which can be removed without powering-down the system.

Removing and Installing Hard Drives

1. Push the release button on the front of the hard drive carrier.

2. The handle of the hard drive carrier will extend.

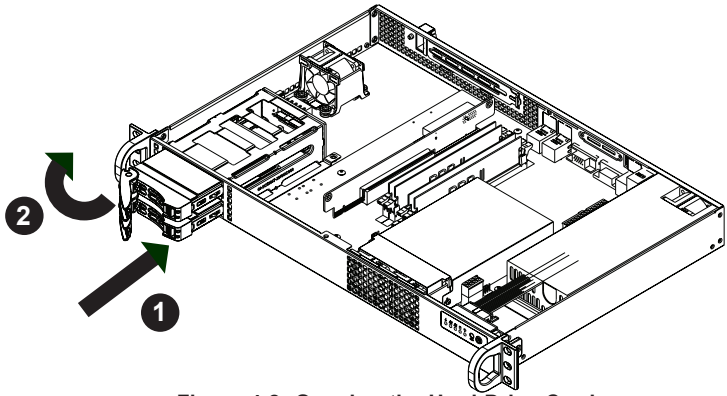


Figure 4-2: Opening the Hard Drive Carrier

3. Use the extended handle of the hard drive carrier to gently pull the hard drive carrier from the chassis.

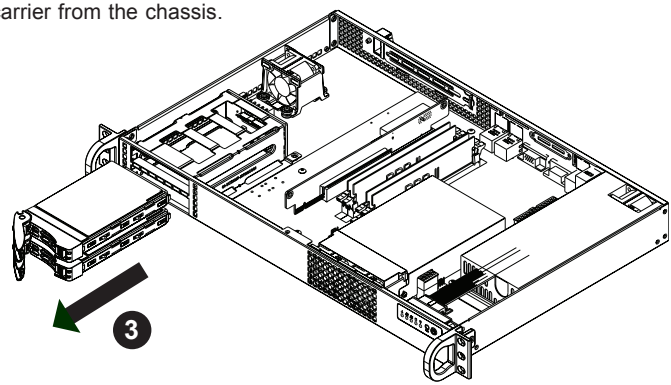


Figure 4-3: Removing the Hard Drive Carrier

4. Replace the hard drive carrier in the chassis, gently pushing it all the way into the chassis.

5. Close the extended drive carrier handle to secure the hard drive carrier in the locked position.

4-4 Installing the Motherboard

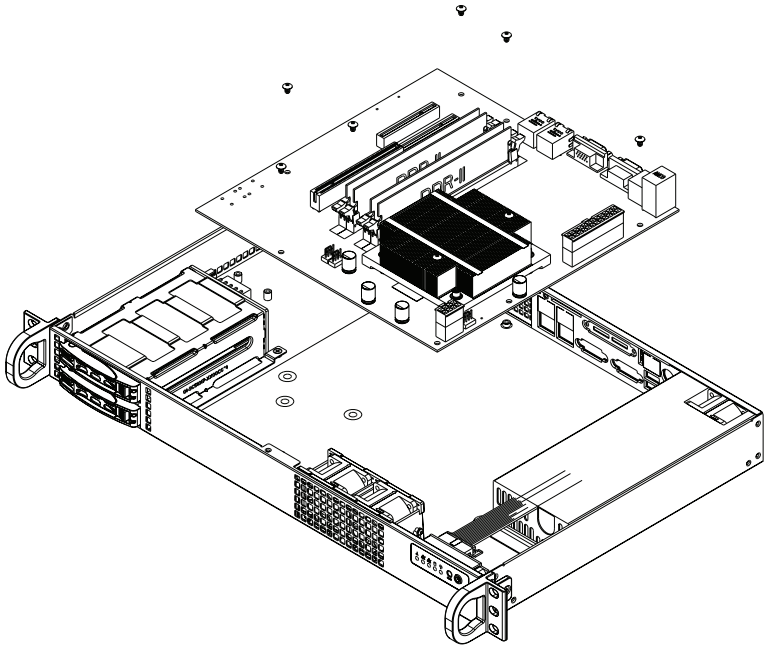


Figure 4-4: Installing the Motherboard

Permanent and Optional Standoffs

Standoffs prevent short circuits by securing space between the motherboard and the chassis surface. The SC510T chassis includes permanent and removable standoffs on the chassis floor. These standoffs accept the rounded Phillips head screws included in the SC510T accessories packaging.

Remove the standoffs based on the positions of the mounting holes of the motherboard being used. To remove an optional standoff, use the wrench provided in the accessory bag to loosen the hexagonal screws from the hexagon nut.

Installing the Motherboard

Motherboard Installation

1. Review the documentation that came with your motherboard. Become familiar with component placement, requirements, precautions, and cable connections.

2. Open the chassis cover.

3. Remove any standoffs which must be taken out in order to fit the motherboard (see previous page).

4. Lay the motherboard on the chassis aligning the permanent and optional standoffs

5. Secure the motherboard to the chassis using the rounded, Phillips head screws.

6. Secure the CPU(s), heatsinks, and other components to the motherboard as described in the motherboard documentation.

7. Connect the cables between the motherboard, backplane, chassis, front panel, and power supply, as needed. Also, the fans may be temporarily removed to allow access to the backplane ports.

Add-on Card/Expansion Slot Setup

SC510T chassis includes an I/O slot for an optional add-on card. A low-profile, half-length PCI add-on card is supported. A riser card is required in order to adapt the add-on card to the 1U chassis. For further information on add-on cards and risers cards, refer to the Supermicro Website at www.supermicro.com

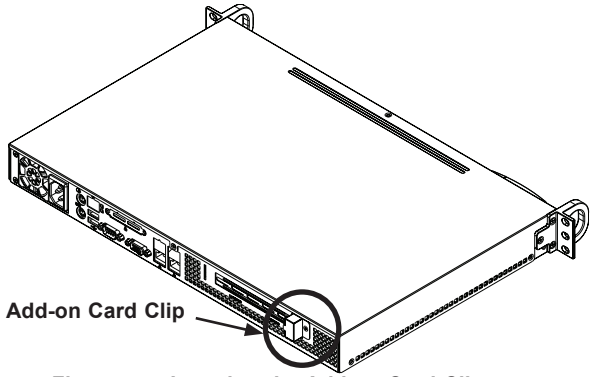


Figure 4-5: Locating the Add-on Card Clip

Installing Add-on Cards:

1. Locate the add-on card clip on the back of the chassis
2. Remove the screws holding the add-on card clip and the dummy bracket which covers the openings in the back of the chassis.
3. Remove the add-on card clip and the dummy plate from the chassis.
4. Outside of the chassis, put the add-on card and the riser card together by Inserting the add-on card into the riser card.

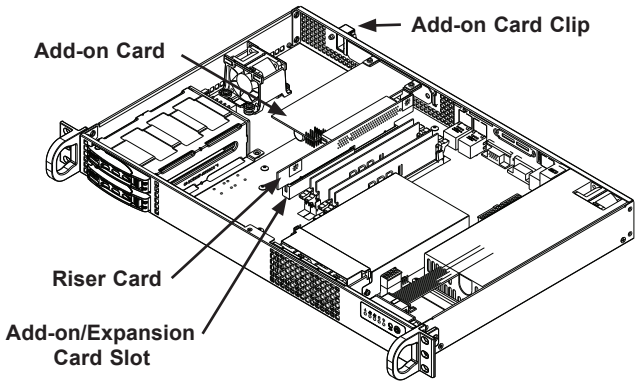


Figure 4-6: Installing the Add-on Card and Riser Card

5. Insert the assembled add-on card and riser card into the expansion slot inside the chassis, carefully aligning the plate of the add-on card with the openings in the back of the chassis.

6. Replace the add-on card clip and screw it onto the chassis to hold the add-on card in place.

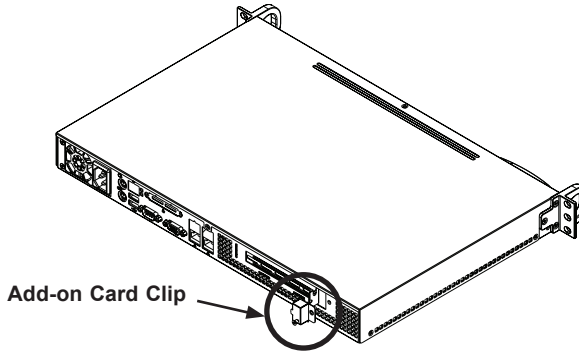


Figure 4-7: Replacing the Add-on Card Clip

4-5 Replacing the Heatsink

The SC510T chassis requires a heatsink, which conducts heat away from the motherboard.

Replacing the Heatsink

1. Unplug all power leading to the chassis.
2. Remove the 4 mounting screws which attach the heatsink to the motherboard and set them aside for later use.
3. Carefully lift the heatsink from the motherboard.
4. Align the holes of the replacement heatsink with the mounting thru holes in the motherboard
5. Using the screws which were set aside previously, reattach the heatsink to the motherboard.

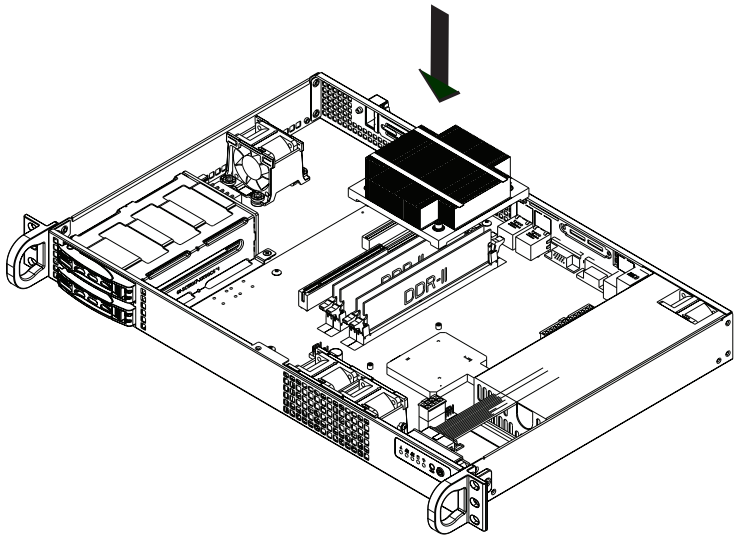


Figure 4-8: Installing the Heatsink

4-6 Installing the Air Shroud

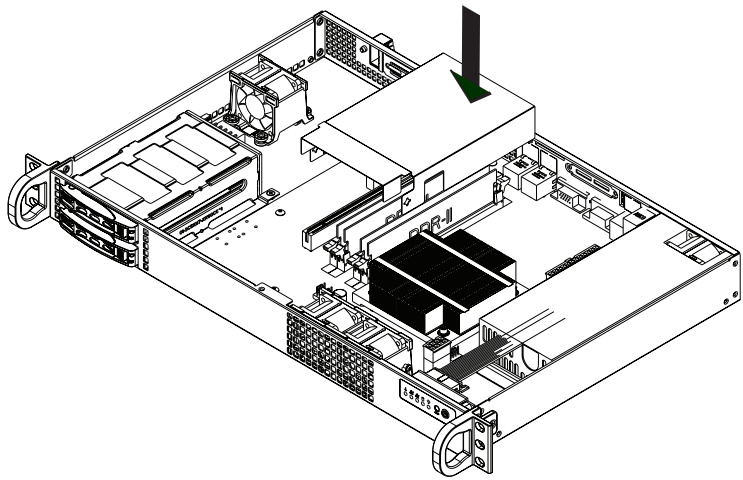


Figure 4-9: Installing the Air Shroud

Air shrouds concentrate airflow to maximize fan efficiency. The SC510T chassis air shroud does not require screws to set up. Use the air shroud included with your chassis, unless an active heatsink is being used. If an active heatsink is being used, no air shroud is required.

Installing the Air Shroud

1. Place the air shroud in the chassis. The air shroud fits behind the set of dual fans.

2. Use the clip on the fan housing to hold the air shroud in place. (See item 1 above)

Checking the Server's Air Flow

Checking the Air Flow

1. Make sure there are no objects to obstruct airflow in and out of the server.

2. Use only recommended server parts.

3. Make sure no wires or foreign objects obstruct air flow through the chassis. Pull all excess cabling out of the airflow path, or use shorter cables.

4. The control panel LEDs inform you of system status. See “Chapter 3: System Interface” for details on the LEDs and the control panel buttons.

In most cases, the chassis power supply and fan are pre-installed. If you need to install fans, continue to the Systems Fan section of this chapter. If the chassis will be installed into a rack, continue to the next chapter for rack installation instructions.

4-7 Replacing System Fans

The SC510T chassis comes equipped with three system fans for optimal cooling. There is a single fan located behind the hard disk drives, and set of two fans located in front of the motherboard. These fans circulate air through the chassis as a means of lowering the chassis internal temperature.

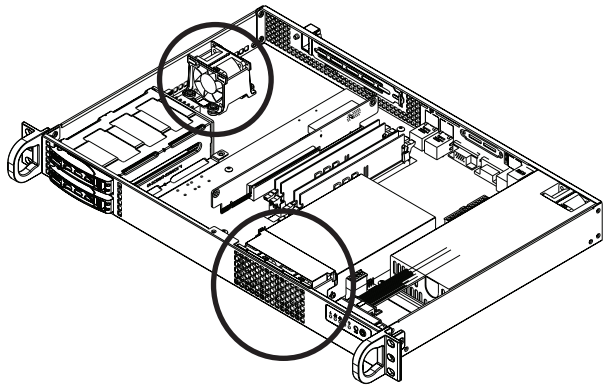


Figure 4-10: Locating System Fans

Replacing System Fans

1. If necessary, open the chassis while the power is running to determine which fan has failed. (Never run the server for an extended period of time with the chassis open.)

2. Turn off the power to the system and unplug the system from the outlet.

3. Remove the failed fan's power cord from the serverboard.

Figure 4-11: Identifying System Fans

4. Remove the fan housing from the chassis by removing the two screws which attach the housing to the chassis. These screws are located in the mounting thru holes on either side of the fan housing. (See figure 4-6). Set these screws aside for later use.

5. Disconnect the fan wiring from the connectors and carefully lift the fan housing out of the chassis.

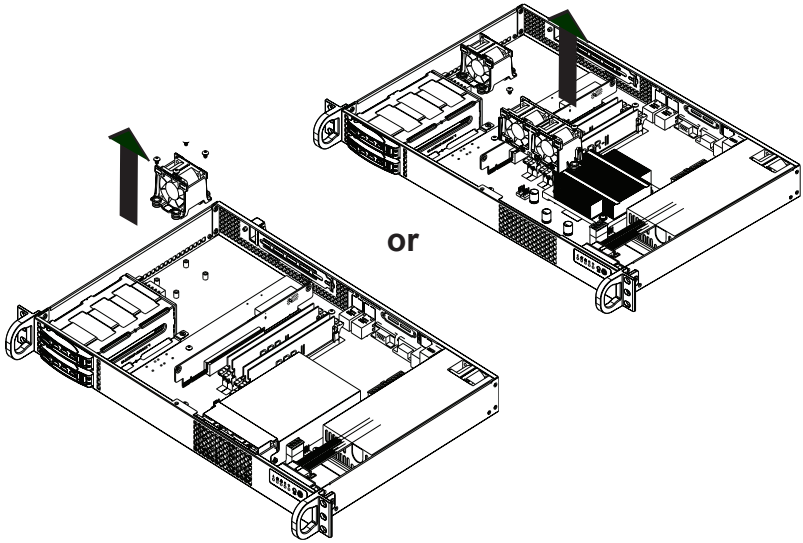


Figure 4-12: Removing the Fan Housings from the Chassis

6. To remove the fans from the fan housing, gently push **upwards** on the fan from the **underside** of the fan housing. Gently ease the fan out of the top of the fan housing

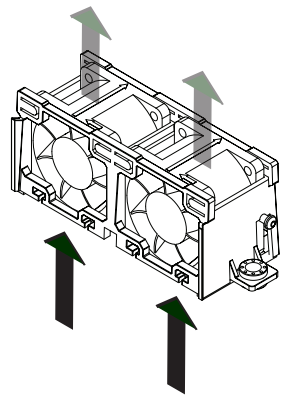


Figure 4-13: Removing Fans from Fan Housings

7. Slide the replacement fan **upwards through the bottom of the fan housing**.

8. Reconnect the fan wiring and replace the fan housing in the chassis using the mounting screws previously set aside.

4-8 Power Supply

The SC510T chassis has one 200 Watt power supply. This power supply is auto-switching capable. This enables it to automatically sense and operate at a 100v to 240v input voltage. In the unlikely event that the power supply unit fails, the system will shut down and you will need to change the power supply unit.

New units can be ordered directly from Supermicro (see contact information in the Preface).

Replacing the Power Supply

Power Supply Replacement

1. Unplug all power leading to the chassis.

2. Disconnect all wiring from the power supply.

3. Remove the four screws which hold the power supply in the chassis. The two front mounting screws are located on the front of the power supply. The two rear mounting screws are accessed on the underside of the chassis and extend upwards through the mounting thru holes, to hold the power supply in place. Set the screws aside for later use.

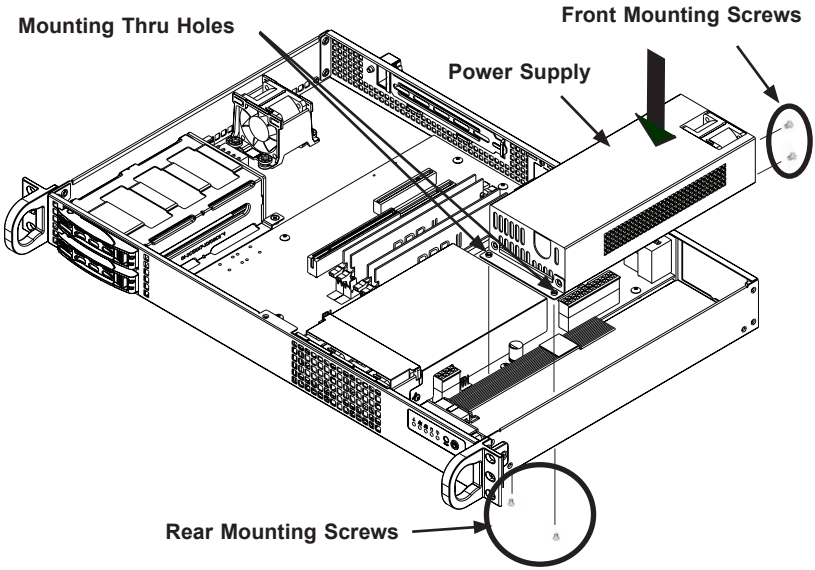


Figure 4-14: Installing the Power Supply

4. Remove the power supply from the chassis.

5. Align the mounting thru holes on the power supply with the mounting holes in the chassis and reattach the power supply to the chassis using the four screws which were previously set aside

6. Connect the chassis wiring to the power supply.

Chapter 5

Rack Installation

5-1 Overview

This chapter provides a quick setup checklist to get your chassis up and running. Following these steps in the order given should enable you to have the system operational in a minimal amount of time.

5-2 Unpacking the System

You should inspect the box the chassis was shipped in, and note if it was damaged in any way. If the chassis itself shows damage, you should file a damage claim with the carrier who delivered it.

Decide on a suitable location for the rack unit that will hold your chassis. It should be situated in a clean, dust-free area that is well ventilated. Avoid areas where heat, electrical noise and electromagnetic fields are generated. You will also need it placed near a grounded power outlet. Be sure to read the Rack and Server Precautions in the next section.

5-3 Preparing for Setup

The box your chassis was shipped in should include four mounting screws, which you will need if you intend to install the system into a rack. Read this section in its entirety before you begin the installation procedure outlined in the sections that follow.

Choosing a Setup Location

- Leave enough clearance in front of the rack to enable you to open the front door completely (~25 inches).
- Leave approximately 30 inches of clearance in the back of the rack to allow for sufficient airflow and ease in servicing.

- This product is for installation only in a Restricted Access Location (dedicated equipment rooms, service closets and similar environments).

Warnings and Precautions!

Rack Precautions

- Ensure that the leveling jacks on the bottom of the rack are fully extended to the floor with the full weight of the rack resting on them.
- In single rack installation, stabilizers should be attached to the rack.
- In multiple rack installations, the racks should be coupled together.
- Always make sure the rack is stable before extending a component from the rack.
- You should extend only one component at a time. Extending two or more simultaneously may cause the rack to become unstable.

General Server Precautions

- Review the electrical and general safety precautions that came with the components you are adding to your chassis.
- Determine the placement of each component in the rack.
- Install the heaviest server components on the bottom of the rack first, and then work up.
- Use a regulating, uninterruptible power supply (UPS) to protect the server from power surges, voltage spikes and to keep your system operating in case of a power failure.
- Allow the hard drives and power supply modules to cool before touching them.
- Always keep the rack's front door, all panels and all components on the servers closed when not servicing, in order to maintain proper cooling.

Rack Mounting Considerations

Ambient Operating Temperature

If installed in a closed or multi-unit rack assembly, the ambient operating temperature of the rack environment may be greater than the ambient temperature of the room. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacturer's maximum rated ambient temperature (TMRA).

Reduced Airflow

Equipment should be mounted into a rack so that the amount of airflow required for safe operation is not compromised.

Mechanical Loading

Equipment should be mounted into a rack so that a hazardous condition does not arise due to uneven mechanical loading.

Circuit Overloading

Consideration should be given to the connection of the equipment to the power supply circuitry and the effect that any possible overloading of circuits might have on overcurrent protection and power supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

Reliable Ground

A reliable ground must be maintained at all times. To ensure this, the rack itself should be grounded. Particular attention should be given to power supply connections other than the direct connections to the branch circuit (for example, the use of power strips, and other devices).

5-4 Rack Mounting Instructions

This section provides information on installing the SC510T chassis into a rack unit There are a variety of rack units on the market, which may mean the assembly procedure will differ slightly. You should also refer to the installation instructions that came with the rack unit you are using.

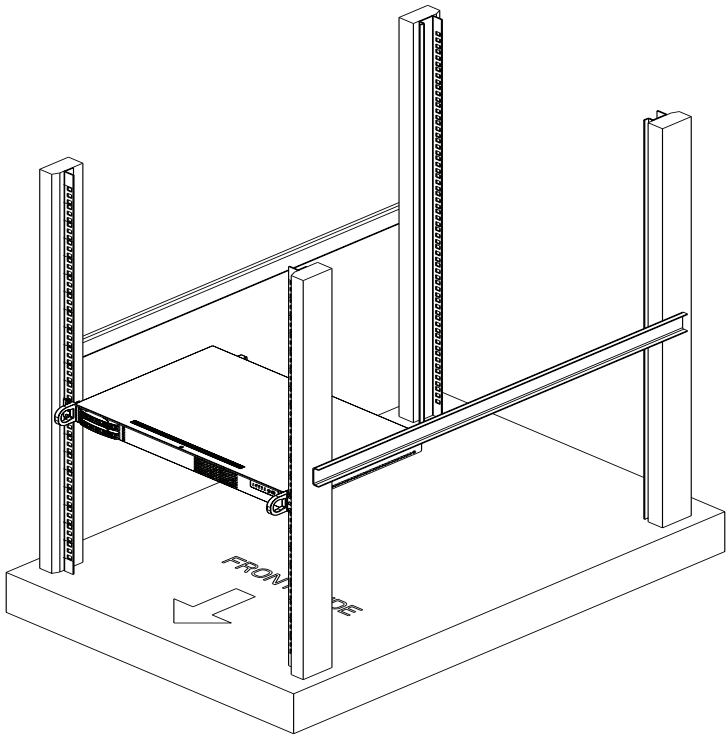


Figure 5-1: Installing the Chassis into a Rack

Installing the Chassis into a Rack

Rack Installation

1. Confirm that chassis includes the four mounting screws required to mount the chassis into a rack

2. Align the thru holes of the chassis with the thru holes of the rack.

3. Insert the mounting screws into the thru holes in the front of the chassis and through the thru holes in the rack

Appendix A

Cables, Screws, and other Accessories

A-1 Overview

This appendix lists supported cables for your chassis system. It only includes the most commonly used components and configurations. For more compatible cables, refer to the manufacturer of the motherboard you are using and our Web site at: www.supermicro.com.

A-2 Cables Included with SC510T Chassis

SC510T-200B			
Part #	**Type**	**Length**	**Description**
CBL-0236L	Ribbon	13"	16 pin to 16 pin ribbon cable for control panel
-	Cable	6'	Regional power cord
CBL-0061L	Cable	1.4"	2x SATA cable

Extending Power Cables

Although Supermicro chassis are designed with to be efficient and cost-effective, some compatible motherboards have power connectors located in different areas.

To use these motherboards you may have to extend the power cables to the mother boards. To do this, use the following chart as a guide.

Power Cable Extenders		
Number of Pins	**Cable Part #**	**Length**
24 pin	CBL - 0042	7.9"(20 CM)
20 pin	CBL - 0059	7.9"(20 CM)
8 pin	CBL - 0062	7.9"(20 CM)
4 pin	CBL - 0060	7.9"(20 CM)

Front Panel to the Motherboard

The SC510T chassis includes a cable to connect the chassis front panel to the motherboard. If your motherboard uses a different connector, use the following list to find a compatible cable.

Front Panel to Motherboard Cable (Ribbon Cable)		
Number of Pins (Front Panel)	**Number of Pins (Motherboard**	**Cable Part #**
16 pin	16 pin	CBL - 0049
16 pin	20 pin	CBL - 0048
20 pin	20 pin	CBL - 0047
16 pin	various*	CBL - 0068
20 pin	various*	CBL - 0067

* Split cables: Use these cable if your motherboard requires several different connections from the front panel.

A-3 Chassis Screws

The accessory box includes all the screws needed to setup your chassis. This section lists and describes the most common screws used. Your chassis may not require all the parts listed.

M/B

Pan head
6-32 x 5 mm
[0.197]

HARD DRIVE

Flat head
6-32 x 5 mm
[0.197]

DVD-ROM, CD-ROM, and FLOPPY DRIVE

Pan head
6-32 x 5 mm
[0.197]

Flat head
6-32 x 5 mm
[0.197]

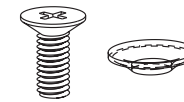
Round head
M3 x 5 mm
[0.197]

Round head
M2.6 x 5 mm
[0.197]

RAIL

Flat head
M4 x 4 mm
[0.157]

Round head
M4 x 4 mm
[0.157]

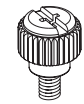


Flat head
M5 x 12 mm[0.472]
Washer for M5

M/B STANDOFFS

M/B standoff
6-32 to 6-32

M/B (CPU)
standoff
M5 to 6-32



Thumb screw
6-32 x 5 mm
[0.197]

1/U M/B standoff
6-32 x 5 mm
[0.197]

Notes

Appendix B

SC510T Power Supply Specifications

This appendix lists power supply specifications for your chassis system.

SC510T-200B	
	200W
MFR Part #	PWS-201-1H
Rated AC Voltage	100 - 240V 50 - 60Hz 4-2Amp
+5V standby	2 Amp
+12V	16 Amp
+5V	8 Amp
+3.3V	8 Amp
-12V	0.5 Amp

Notes

Appendix C

SAS-510T Backplane Specifications

To avoid personal injury and property damage, carefully follow all the safety steps listed below when accessing your system or handling the components.

C-1 ESD Safety Guidelines

Electrostatic Discharge (ESD) can damage electronic components. To prevent damage to your system, it is important to handle it very carefully. The following measures are generally sufficient to protect your equipment from ESD.

- Use a grounded wrist strap designed to prevent static discharge.
- Touch a grounded metal object before removing a component from the antistatic bag.
- Handle the backplane by its edges only; do not touch its components, peripheral chips, memory modules or gold contacts.
- When handling chips or modules, avoid touching their pins.
- Put the card and peripherals back into their antistatic bags when not in use.

C-2 General Safety Guidelines

- Always disconnect power cables before installing or removing any components from the computer, including the backplane.
- Disconnect the power cable before installing or removing any cables from the backplane.
- Make sure that the backplane is securely and properly installed on the motherboard to prevent damage to the system due to power shortage.

C-3 An Important Note to Users

- All images and layouts shown in this user's guide are based upon the latest PCB Revision available at the time of publishing. The card you have received may or may not look exactly the same as the graphics shown in this manual.

Jumper Settings and Pin Definitions

C-4 Front Components

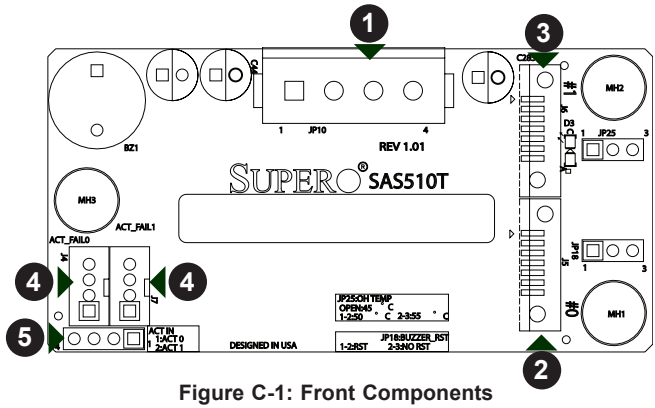


Figure C-1: Front Components

The SAS-510T backplanes features the following front components:

Front Connectors

1. Power Connector: (4-pin) JP10
2. SATA Connector: (7-pin), J5, connect to cable.
3. SATA Connector: (7-pin), J6, connect to cable.
4. LED Input Connector: (Not included on most models, only functions with the AOC-SATAR1 Rev 1.01), J4, J7
5. ACT_IN Connector: JP2

C-5 Front Connector and Pin Definitions

1. Power Connector

The 4-pin connector designated JP10 provides power to the backplane. See the table on the right for pin definitions.

Backplane Main Power 4-Pin Connector (JP10)	
Pin#	Definition
1	+12V
2 and 3	Ground
4	+5V

2. - 3. SATA Connector

The SATA ports are used to connect the SATA drive cables. The two ports are designated #0 and #1. Each port is also compatible with SATA and SAS drives.

4. LED Input Connector (Not included on most models)

This option only functions with the AOC-SATAR1 RAID controller.

5. ACT_IN Connector

The activity LED header, designated JP2, is used to indicate the activity status of each drive.

ACT_IN JP2	
Pin#	Definition
1	ACT_IN 0
2	ACT_IN 1
3	N/A
4	N/A

C-6 Front Jumper Locations and Pin Definitions

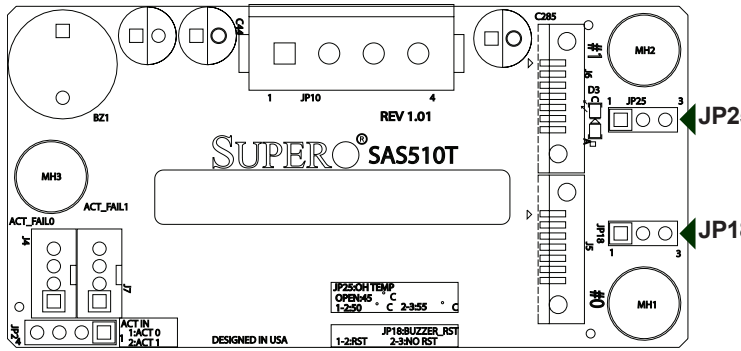
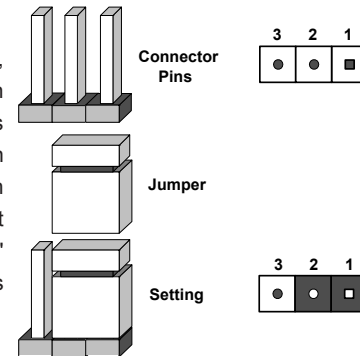


Figure C-2: Front Jumpers

Explanation of Jumpers

To modify the operation of the backplane, jumpers can be used to choose between optional settings. Jumpers create shorts between two pins to change the function of the connector. Pin 1 is identified with a square solder pad on the printed circuit board. Note: On two pin jumpers, "Closed" means the jumper is on and "Open" means the jumper is off the pins.



Jumper Settings		
Jumper	**Jumper Settings**	**Note**
JP18	2-3: No Reset (Default) 1-2: Reset	Buzzer enabled* Buzzer disabled*
JP25	1-2: Default	Overheat temperature settings 1-2 50 degrees C 2-3 55 degrees C Open 45 degrees C

*The buzzer sound indicates that an overheat condition or drive failure has occurred.

C-7 Front LED Indicators

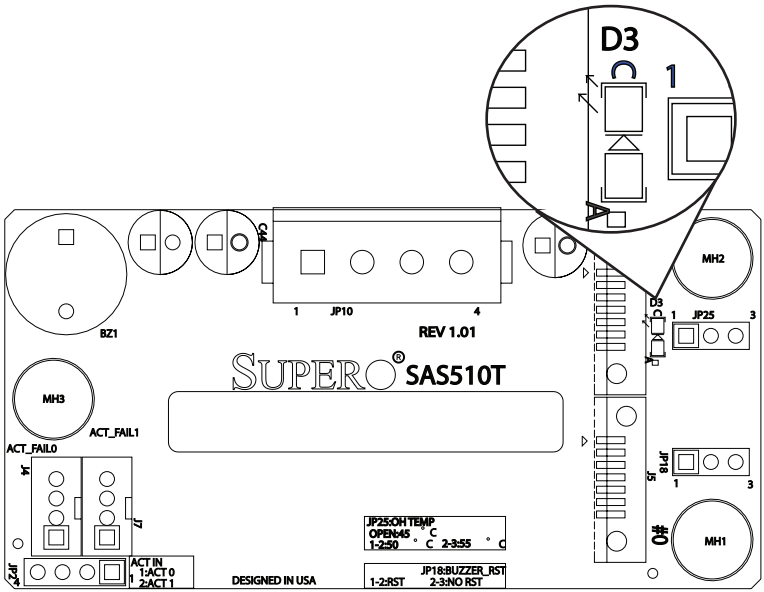


Figure C-3: Front LEDs

Front LEDs		
LED	**STATE**	**SPECIFICATION**
D3	ON	Overheat/drive failure LED indicator (Red light: flashing, buzzer: on)

C-8 Rear Connectors and LED Indicators

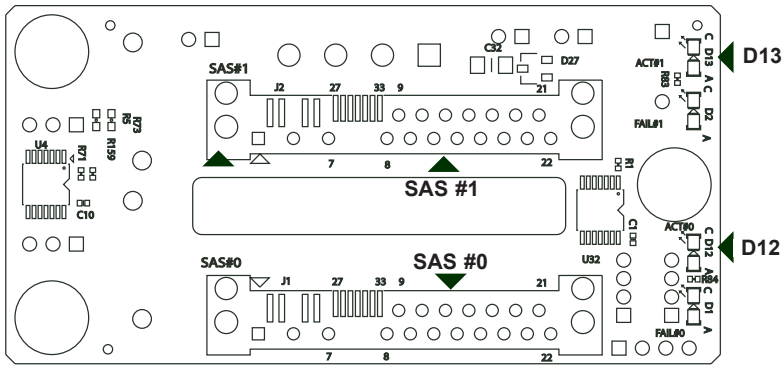


Figure C-4: Rear Components

Rear SAS/SATA Connectors		
Rear Connector	**Connector Number**	**SAS Drive Number**
SAS #0	J1	SAS/SATA HDD #0
SAS #1	J2	SAS/SATA HDD #1

Rear LED Indicators		
Rear Connector	**Hard Drive Activity**	**Failure LED (Not included on most models)**
SAS #0	D12	D1
SAS #1	D13	D2

Disclaimer (cont.)

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